Heutagogy and m-learning: Conceptualising the learner journey through the Orientation, Exploration, Pathfinding and Arrival (OEPA) model

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Abstract

The use of mobile devices by learners in Higher Education (HE) invites a re-conceptualisation of what we have come to understand as learning in contemporary settings. In adopting mobile devices as learning tools, learners develop a range of technical, cognitive and social skills. As such, mobile devices can be viewed as enabling the development of wider lifelong learning and employability attributes that may be of benefit in a variety of contexts. The literature on learner-centred education continues to develop with a variety of theoretical approaches ranging from andragogy, self-regulated learning and more recently heutagogy. As a form of self-determined learning, heutagogy challenges much in traditional pedagogic practice and opens up new avenues for innovation. Heutagogy continues to evolve as a theory of self-determined learning. In this sense, the development of heutagogy coincides with technological advances, and as such provides us with an opportunity to contemplate new ways of learning, as well as new relationships and identities within learning. This conceptual paper aims to address a research problem: How can we develop m-learning to accommodate heutagogy? In doing so, this paper combines version B heutagogy with the Orientation, Exploration, Pathfinding and Arrival (OEPA) model to re-conceptualise heutagogic m-learning.

Keywords: M-learning; Web 2.0 technologies; Version B heutagogy; The heutagogic OEPA model.

Introduction

Blaschke and Hase (2019, p. 1) claim that the emergence of new forms of mobile technology combined with heutagogic principles of learning offer 'a unique opportunity to support students in developing lifelong learning skills'. The nature of

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this 'digital habitat' (Ally and Wark, 2018) is evolving with new mobile Apps offering students new opportunities to access, generate, and share information in innovative ways. Although there are estimates that by 2025 71% of the world's population will use mobile technology, for Al-Emran, Arpaci and Salloum (2020, p. 2900) 'there is little knowledge regarding the continued use of m-learning'. There can be little doubt that the adoption of m-learning appears to be increasingly prevalent in traditional pedagogical approaches within Higher Education (HE). However, there appears to be a shortfall in the ways we conceptualise the implementation of m-learning in student-determined learning. This paper sets out to address a research problem: How can we develop m-learning to accommodate heutagogy? In addressing this research problem, this conceptual paper discusses the relevance of version B or formal heutagogy and combines this within the Orientation, Exploration, Pathfinding and Arrival (OEPA) model (Stoten, 2021) of the heutagogic learning journey to provide a conceptual framework of the heutagogic m-learning journey.

The context to m-learning:

In providing an alternative to desk-based technologies, web 2.0 technologies offer greater flexibility in how we interact with information, learners and educators. Chao (2019) offers a definition of m-learning as 'a learning process conducted across various contexts (location, time, and other environmental factors) where learners can benefit from access to learning materials through smart mobile devices such as smartphones and tablet computers'. Although definitions of m-learning may differ in emphasis, they all tend to focus on the flexibility and personalisation of learning that m-learning may facilitate. The use of mobile communication devices is a feature of contemporary human interaction in a wide range of settings and continues to grow. Research from across the globe highlights the prevalence of the use of mobile technologies in education. Montilus and Jin (2020) in their investigation into students' use of mobile devices in the United States reported that all owned a smartphone, and these findings are replicated in the research undertaken by Glahn and Gruber (2019) in Switzerland. Importantly, however, although Al-Emran et al. (2019) report that a large majority of students in eight universities in the United Arab Emirates viewed mobile devices in a positive way and used these regularly, there was also inconsistency in usage between male and female students, and between students and academic staff. This picture of the research context infers that although there is almost universal use of mobile devices within the student population, the purposes and frequency of this use in learning may vary because of the personalised nature of m-learning.

Research has highlighted how web 2.0 technologies enable the development of lifelong learning skills through the adoption of heutagogic approaches. (Blaschke, 2012; 2014; Blaschke and Hase, 2019). In particular, web 2.0 technologies are seen as connecting learners in a community of learning, enabling information gathering,

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sharing ideas and the development of new understanding through collaboration (Cochrane and Bateman, 2010). Moreover, through the process of collaboration, web 2.0 technologies facilitate reflection in dialogue for individuals and new opportunities for learning beyond the educator. Cochrane et al. (2014) report that students and academic staff tend to prefer to use web. 2.0 technologies, such as an iPad, in a traditional way to import or export files without fully exploring the potential for creativity. This point is important since the form of technology used by students can both enable or inhibit particular approaches to learning through the combination of hardware and software chosen. It therefore follows that a simplistic advocacy of the use of web 2.0 technologies is insufficient if we are to realise the potential of these learning tools. For Gerstein (2014), the adoption of new forms of technology would require a fundamental shift in the way education is practised, especially in the training and mind-set of educators. This cultural shift would not only involve a significant change in the way educators are inducted into the practice of teaching and learning but also the way in which we think of assessment and its purposes, as well as the conduct of learning encounters between staff and students.

Cochrane and Narayan (2014) suggest that we consider developing a web 2.0 conversant curriculum framework in order to facilitate heutagogic practice. In particular, they recommend that HE promote communities of practice (Lave and Wenger, 1991) that develop good practice and curriculum design, as well as employing students in order to teach the teachers how to exploit the potential of social media tools, and ensuring that there is an IT infrastructure in place to support innovation. Such an extensive agenda may prove too radical for many institutions in the short-term where cultural norms and management systems are wedded to traditional notions of how universities should operate.

Literature review:

Heutagogy within the curriculum:

Heutagogy is a relatively recent innovation in how we conceptualise an idealised form of learning within HE. Hitherto, pedagogy with its origins in the teaching of children has dominated HE curricula and although andragogy (Knowles, 1968, 1975) has promised greater ownership over an individual's learning, it has been more influential in adult education than in HE. In many respects, the term pedagogy pervades HE teaching and learning and with this an inference as to how university educators see their role and that of the student. Heutagogy emerged in the work of Hase and Kenyon (2011, 2003, 2007) from a reappraisal of work-based and vocational forms of learning in Australia and has been extended into a range of educational settings including e-learning (Blaschke, 2012, 2014; Blaschke and Hase, 2019; Blaschke, Porto, and Kurtz, 2010; Kuit and Fell, 2010, Lee and McLoughlin, 2007). Table 1 provides a brief comparison of pedagogy, andragogy and heutagogy.

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Table 1. A comparison of pedagogy, andragogy and heutagogy

Feature	**Pedagogy**	**Andragogy**	**Heutagogy**
Derivation and definition	Derived from ancient Greece and the idea of 'Leading the child'	Derived from Knowles' work (1968; 1975) on 'self-directed learning'	Specifically derived from the work of Hase and Kenyon (2001) and 'self-determined learning'
Role of the learner	Passive and receptive	Focussed on task completion with support	Concerned with problem solving in the work-based environment
Role of the instructor / educator / teacher	Leads on learning as the authoritative expert	A partnership between the educator and learner, with the instructor facilitating progress	The educator is acts as a coach, supporting the learner
Learning context	Learning is linear and concerned with defined learning outcomes	Learning is task-driven and linear, albeit with the learner possessing a degree of autonomy	Learning is determined by the learner. Learning can be non-linear in nature
Curriculum context	Formal, common to all learners and non-negotiable	Develops self-concept through support and guidance	Self-conceived, meeting the needs of an individual and their context
Cognition context	Cognitive- the process of acquiring specified knowledge	Metacognitive- reflection on own learning and how this can be improved	Epistemic- thinking about the meaning of an individual's position in a wider societal context
Motivation context	Motivation is influenced by the wider social context	Motivation is intrinsic, and tied to personal growth	Motivation is associated with the benefits of learning how to learn and life-long learning
Knowledge production	To acquire subject knowledge	To arrive at a personal and meaningful understanding of knowledge in context	The creation of new insights and knowledge for an individual
Institutional context	School, post-compulsory and Higher Education sectors	Adult Education	Higher Education and work-based training

Heutagogic practice is underpinned by the principle of learner agency and a view that learning is part of a wider understanding of holistic personal development. In

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this respect, heutagogy draws from earlier humanist writing on learning and personal growth (Maslow, 1943; Rogers, 1961). In offering a transformative approach to learning that prioritises the goals of the individual, heutagogy can also be linked to the work of Mezirow (1997). In addition to this humanist tradition, recent scientific research has also contributed to heutagogic theoretical development. Blaschke and Hase (2019) highlight the work undertaken in neuroscience that reports on the way humans perceive and respond to stimuli, all of which has profound implications for how we interact with our surroundings. For Bandura (2001, p. 4) this means that 'people are not just onlooking hosts of internal mechanisms orchestrated by environmental events. They are agents of experience…The human mind is generative, creative, proactive, and reflective, not just reactive." Importantly, Bandura's (2001) contribution recognises the social context within which learning occurs. Research into heutagogy in practice also reports that the promotion of learner-centred approaches facilitates a greater propensity for reflection and the development of individual capability in challenging contexts (Bhoyrub et al., 2010; Hase, 2014; Nicolaides and McCallum, 2013; Stoten, 2020). Heutagogy therefore offers the prospect of innovative approaches to learning in which the individual and their goals are placed at the centre of the educational agenda.

Belt (2014) offers us insights into how heutagogy may be introduced within HE through a movement to supported forms of learning that is described as 'version B' or formal heutagogy. For Belt (2014) this development would involve a modification of the heutagogy idea of the autodidactic learner and unstructured learning towards a scenario of bound autodidacticism. Belt (2014, pp. 181-182) claims that:

> Being a 'bound autodidactic' means that there is structure and control for the student in the learning process…. A starting point wherein heutagogy can grow and develop…. [and that] reinforces the students' natural way of learning and helps bolster autonomy, self-direction, and self-determined learning.

For McAuliffe et al. (2008, p. 4):

> The educator/facilitator should remain a vital part of helping learners interpret their world while at the same time maintaining a distance appropriate in encouraging learners to actively engage in that world through the process of discovery.

In this respect, formal heutagogy revisits the elements within scaffolding (Vygotsky, 1934/1986) albeit not in the form of the highly structured zone of proximal development, and with the educator serving as a heutagogic guide rather than a pedagogic instructor. Although enhancing support for learners may be interpreted as aligning formal heutagogy closer to andragogy or even pedagogy, it is not in practice. As Belt (2014) emphasises, the role of the educator is centred on offering suggestions on where to find useful materials in an online environment, not issue

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directions on what to use. The benefits of maintaining a supportive role for educators is acknowledged in the literature (Kamrozzaman, Badusah, and Ruzanna, 2020; Luckin, 2008; Tseng, Tang, and Morris, 2016). In particular, the spatial and temporal setting for learning is very different from the situated classroom. Indeed, it could be argued that m-learning provides a conducive environment for a redefinition of the interaction between the learner and educator as in the instance of podcasts where the student is able to exercise judgment over how to engage with resources as they prefer (Evans, 2008).

The idea of the bound autodidactic learner is an important contribution to the growing discourse on how heutagogy may be implemented. One possible way of enabling bound autodidacticism is through the OEPA model (Figure 1). The OEPA model adopts the idea of a learning journey where 'learners create the learning map, and instructors serve as the compass' (Hase and Kenyon, 2007, p. 59). The model is structured into four stages through which the learner navigates through a learning journey: the orientation to context and the learning opportunity itself, exploration of the possibilities for learning together with its self-determination through pathfinding strategies, and finally arriving at new understanding through an evaluation of the learning journey as a whole. Although the OEPA model can be applied to a variety of learning scenarios, it is particularly suited to m-learning.

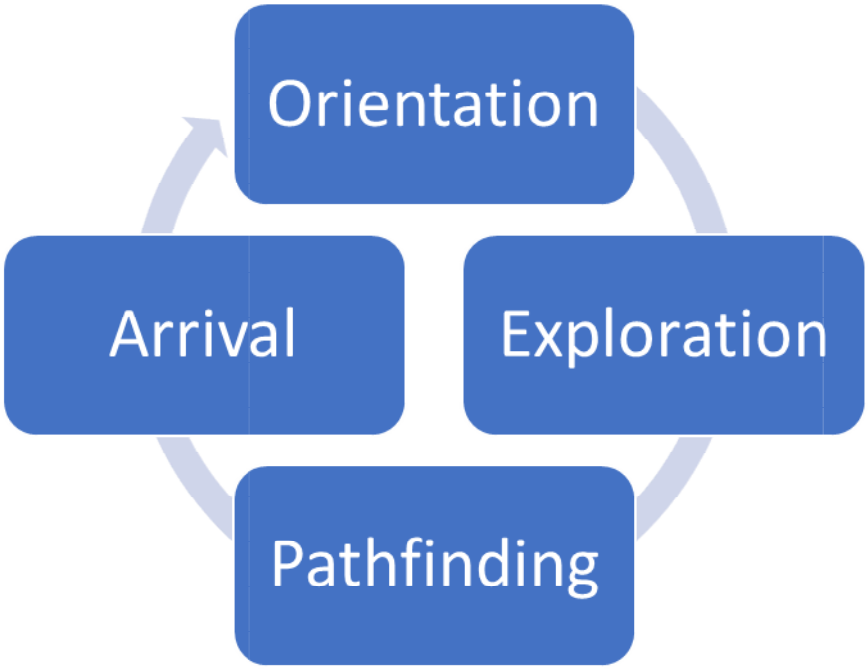

Figure1. The heutagogic OEPA model (Stoten, 2021).

The development of heutagogy offers educators opportunities for innovative m-learning within HE (Cochrane and Narayan, 2014; Blaschke and Hase, 2019). In

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essence, this venture involves the empowerment of personal agency and individual ownership over learning. However, as an evolving theoretical approach, heutagogy presents challenges to traditional notions of learning and the role of educators. The work of Belt (2014) offers one possible way forward through the idea of formal heutagogy. There are, however, still gaps in our understanding which can usefully be addressed through further empirical research. Such research could, for example, explore the relationship between how technology affects goal-setting and motivation (Jeno, Vandvik, Eliassen, and Grytnes, 2019; Jeno, Dettweiler, and Grytnes, 2020), which is so important in personalised forms of m-learning. Research that reports on the successful implementation of curriculum projects and the responses of learners to empowerment is required in order to understand what may work best, and why. The OPEA model is intended to provide a framework within which to contextualise our research and ideas for the future of heutagogic m-learning.

Research method

The purpose of this section is to address the concern of Jaakkola (2020, p. 19) that 'a well-designed conceptual paper must explicitly justify and explicate decisions about key elements of the study'. Cropanzano (2009) differentiates between three different types of conceptual paper, with both substantive reviews and critiques engaging with the established literature in order to refine understanding, and a third type, the theory article, aiming to propagate a new theoretical approach to an issue, often through the development of a new model (Jaakkola, 2020). In discussing the purpose of a theory-oriented paper, Cropanzano (2009) posits the 'so what' problem of proffering a new theoretical model. The justification of this paper is predicated on the claim that there is a discernible gap in the literature on m-learning from a heutagogic perspective. This claim informs the research problem that underpins this paper: How can we develop m-learning to accommodate heutagogy? That this field of research is under-developed should not be surprising, with both heutagogic theory and m-learning being relatively recent innovations.

Tranfield, Denyer and Smart (2003) identify three phases in developing a review of the literature: planning, conducting and reporting. During the planning phase, it is important to delineate the scope of the research and possible theoretical approaches. For Rowley and Slack (2004), this phase involves a 'building blocks approach' in which relevant literature and areas of interest are clarified. In the present study this theoretical focus was informed by a range of literature, including Prensky's work (2001a, 2001b) on 'Digital Natives', the literature on the adoption of mobile devices (Al-Emran, Elsherif, and Shaalan, 2016; Alioon and Delialioglu, 2017; Tseng, Tang, and Morris, 2016), and more widely on models of technology adoption (Bond and Bedenlier, 2019; Bond et al., 2020; Chao, 2019; Kennedy et al., 2008; Taherdoost, 2017). This phase proved particularly useful since it clarified the core

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issues associated with student use of mobile devices and established the theoretical foundation for further investigation.

Phase two of the research process involved closer examination of the literature with more focussed searching using keywords linked with m-learning and heutagogy. It was during this phase in the research that an emphasis was placed on how m-learning had been reported in the work on heutagogy, with particular emphasis on a number of scholars who had led in the field including Hase and Kenyon (2001; 2003; 2007), Blaschke (2012; 2014) and Cochrane and Bateman (2010). In this sense, the nature of the research corresponded to Hallinger's (2013) notion of a 'bounded' rather than an 'exhaustive' search, as the field of m-learning was placed into the domain of heutagogy. During this phase the keywords used related to student ownership, the role of the educator, assessment procedures and curriculum change. Given this bounded approach, it was possible to 'snow-ball' ideas through the exploration of this relatively recent corpus of work.

The third and final phase of the research process involved the collation of ideas and development of theory that is presented in this paper. For Jaakkola (2020, p. 24), 'the model paper typically contributes by providing a roadmap for understanding the entity in question by delineating the focal concept'. In order to facilitate an overview in the current study, a mind-map was created to organise information and coalesce emergent themes. In searching for a way to conceptualise heutagogic approaches to m-learning, it was decided to adopt the OEPA model as a way of modelling the learning journey of students. As a model informed by heutagogic thought, the OEPA model is particularly suited to this purpose.

Overall, this research strategy is not without limitations. The focus on the work of prominent scholars, such as Hase and Kenyon (2001; 2003; 2007) and Blaschke (2012; 2014), meant that research and discussion publicised without formal peer review was not surveyed. Hence there remains the possibility that useful research into m-learning approaches has not been included in the review, and as Haddaway et al. (2015, p. 1596) concede even highly structured reviews 'are susceptible to a number of biases during the identification, selection, and synthesis of individual included studies'.

Findings

This conceptual paper set out to address a shortfall in the literature on m-learning and heutagogy through theorisation of the learning journey. In proffering the OEPA model as a template, this paper provides a framework in order to map m-learning under version B heutagogy. This section will elaborate upon the representation of the OEPA model in relation to m-learning as described in Figure 2.

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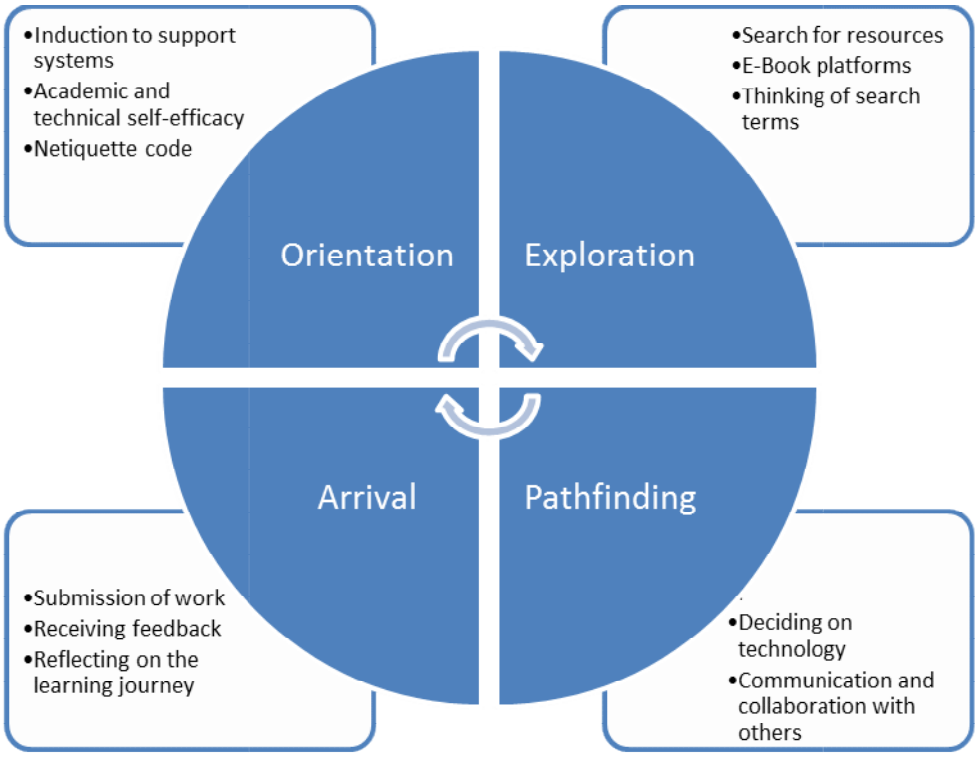

Figure 2. The heutagogic OEPA model (Stoten, 2021) as applied to m-learning.

Envisaging the OEPA m-learning journey

Firstly, the importance of effective orientation is recognised both in professional practice and the research literature. In their report on an orientation week at an American university Nguyen et al. (2018) highlighted the benefits of using smartphone technology together with augmented reality. For Nguyen et al. (2018), this approach enhanced students' psychological and social experience as well as serving as an effective induction to the university whilst Chou and ChanLin (2012) reported on how smartphones are used in providing campus tours for new students in Taiwan. Although a number of scholars discuss the prevalence of addiction amongst student populations (Kim et al., 2017; Matar Boumosleh and Jaalouk, 2017), smartphones have also been used to enable access to important information on health care within HE (Cho et al., 2014). It is in the context of Belt's (2014) version B, or formal heutagogy, that apps can be used to provide information to students who are then able to exercise choice in how they access the information, if at all. In this way, students are able to determine for themselves how they interact with their wider learning and support environment.

Secondly, the use of web 2.0 technologies in exploring resources is widely reported in the literature (Gu, Wu, and Xu, 2015; Jin, 2014; Liaw and Huang, 2016; Morris and Lambe, 2017). In the context of heutagogic writing, links between web

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2.0 technologies and the learning journey are made through reference to connectivism and the idea that self-determined learning is enhanced through the learner's survey and interaction with a variety of information nodes (Downes, 2006, 2012; Siemens, 2005a, 2005b). In this sense, web 2.0 technologies are enablers in heutagogic learning. In using tablets, smartphones and apps to access e-learning platforms students are able to determine what they should access, when and how. Stoten (2019) reported on how students in Sri Lanka used web 2.0 technologies to access an e-book platform, edit downloads and share materials. Research also indicates that students prefer to use tablets rather than smartphones when undertaking exploratory work primarily because of the limited size of screens on smartphones (Montilus and Tiantian, 2020; Zhao, 2016). Bond and Bedenlier (2019, pp. 2-4) recognise that there is 'no guarantee of active student engagement as a result of using technology… [and that] without careful planning… technology can promote disengagement and impede rather than help learning'. In formal heutagogy, Belt (2014, p. 182) describes that educators should 'change from being seen as a knowledge source to being a support agent in student development'. It is within this context that an educator serves as a supporter of the student through the scaffolding of their exploration and asking learners to clarify their thought processes. This approach is particularly apposite within 'bound autodidacticism', especially 'when a student begins their studies they can be digitally exposed' (Gregory and Bannister-Tyrrell, 2017). So, for example, an educator could ask what type of resource was accessed and what was the usefulness of the information derived from a student's exploration of e-learning resources.

Thirdly, pathfinding involves the implementation of preferred learning strategies following an initial exploration of possible approaches. It is in this stage where web 2.0 technologies are particularly useful in communication and collaboration with others. Research reports on the benefits both for educators and learners in adopting mobile learning tools, such as iPads and smartphones within heutagogy (Blaschke, 2012; Hexom, 2014). Importantly, students' capacity for personal agency is located within an increasingly 'diverse mobile device eco-system' (Glahn and Gruber, 2019, p.19) and a fluid learning ecology (Jackson, 2013) within which co-operating with others can be enabled through mobile technologies. The very dynamic and often unstructured use of social media chimes with the non-linear processes associated with heutagogy, which contrasts with linear approaches in traditional pedagogy (Blaschke and Hase, 2019). For example, Blaschke and Hase (2019) report on how social media can enhance collaboration through GoogleDocs, the facilitation of mind-mapping, as well as the development of networks with the wider professional community. The emergence of the 'cloud' as a remote repository of information offers up further opportunities for students to manage their learning. Moldoveanu and Narayandas (2019) describe the potential for personal agency through the use of a Personalised Learning Cloud (PLC). According to Moldoveanu and Narayandas (2019, p. 47), the use of a PLC can enable learners 'to map out personalized learning journeys that heed both the needs of their organizations and their own

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development and career-related needs and interests'. In doing so, web 2.0 technologies facilitate greater choice in terms of with whom to consult, collaborate and co-create than has been possible under traditional classroom-based pedagogical approaches.

Fourthly, although arrival is presented as the final stage in the OEPA model, it should not be perceived as an end to the process of heutagogic learning. The importance of arrival extends beyond the completion and submission of a task because it is inextricably linked to a reflection on the entirety of the learning journey. In this respect, an assignment becomes a vehicle to develop life-long learning skills and metacognition rather than being an absolute measure of learning. Canning and Callan (2010) report on the iterative approach within heutagogy that promotes spirals of reflection both for educators and learners in terms of how they approach learning. This recognition of the importance of reflection for all may usefully inform the development of 'bound autodidaticism' as version B heutagogy is developed through practice. This ability to understand and evaluate one's own approach to learning is key to intellectual and professional development and research reports on how this is undertaken in a range of contexts from business management and sports coaching to education (Amabile and Kramer, 2011; Ashwin et al., 2020; Collins, Carson, and Collins, 2016; Hacker, Bol, and Keener, 2008). In particular, the use of various forms of personal and professional diary is cited as a useful metacognitive tool (Arsal, 2010; Boud, 2002; Haar, Roche, and Brummelhuis, 2017; Schmitz and Wiese, 1999). The functionality proffered through web 2.0 technologies opens up opportunities to extend the use of diaries and integrate metacognition into the heutagogic learning journey. For example, Pebble Pad has been highlighted as an effective e-portfolio tool to create documents, record progress, communicate and promote metacognition in a variety of HE settings (Campbell, 2019; Welsh, 2012; Yeo and Rowley, 2020). E-portfolio technology transforms our understanding of the spatial, temporal and communicative context within learning can occur. The example of an e-portfolio is an illustration of how web 2.0 technologies can change the way in which education has been practised and empower ownership over the learning journey for the learner.

Limitations of the OEPA Model

All conceptual papers are inherently limited by a lack of empirical data that extends the discussion beyond theory. Moreover, conceptual papers cannot make a claim to absolute truth or generalisable findings as would be the case in positivist notions of empirical research. The desirability of following-up theory through empirical evidence is acknowledged when writing a conceptual paper (Coldwell, Williamson, and Talbot, 2019; Traüffer et al., 2010). However, West (2020, p. 3) suggests a pragmatic approach in that:

> We need to reconsider these limiting approaches to scholarship…. If we are to truly understand the complexity of how to help people

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> learn...especially in the shifting sands of digital learning…[w]e must develop the abilities to see the learning process through multiple frames.

The idea of version B heutagogy has yet to be fully explored in the literature and any models aligned with this concept may be subject to critique. Indeed, there is already an extensive body of work (Broadbent et al., 2020; Verma, Ahuja, and Hermon, 2019; Winne, 2019) that explores digital learning albeit in relation to self-regulated learning (SRL). If we are to develop a 'bound autodidactic' approach further through version B heutagogy, then there may be future areas of commonality to explore in relation to self-regulated learning. Future research may usefully explore potential commonalities and unsurmountable boundaries between version B heutagogy in the form of 'bound autodidacticism' and SRL.

Conclusion

The advent of new forms of information-based technologies opens-up new opportunities for innovative practice within HE and new understandings of how learning may take place. The application of web 2.0 technologies to a variety of educational contexts presents challenges in terms of how we exploit their functionality. The adoption of smartphones or tablets, for example, redefines the location of teaching into changing environments of spatially and temporally remote learning. In addition to the changing physical context of learning, web 2.0 technologies enable innovative ways of interaction between the learner and their educators and peers. As such, web 2.0 technology opens up new opportunities for collaborative working, support and emotional resilience.

Furthermore, the development of mobile information-based technologies has coincided with a raft of theoretical approaches that have sought to place greater emphasis on how the learner may exercise ownership and control over their learning journey. Two of the most widely discussed approaches to emerge in recent decades are SRL and heutagogy. Although both recognise the relevance of ownership over learning, there remains significant differences between them, particularly in relation to the role of the educator and their capacity for intervention. Version B heutagogy may establish some basis for greater alignment between the two approaches and useful research could explore this possibility. Specifically, version B heutagogy should explore the nature of self-determined learning and how learners manage their learning journey, and the possible role of coaches in facilitating an effective learning environment.

The OEPA model offers a way of understanding the heutagogic learning journey as a process. In particular, the OEPA model provides a framework within which to consider how a 'bound autodidacticism' may be realised under version B heutagogy. When applied to m-learning, the OEPA model enables an overview of the learning

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journey and may serve to establish opportunities for reflection and self-evaluation by the learner. Albeit a simplified representation of the complexities of learning, the OEPA m-learning model provides both the learner and their supporters with a map of where they are in the learning journey, with reference to the topography of learning. In this respect, the OEPA Model may inform the future development of version B heutagogy and a shift to more extensive use of self-determined m-learning in HE.

Disclosure statement:

The author confirms that this paper is their own work and is not published elsewhere. The citation of all sources is intended to conform with the Harvard referencing system. There is no conflict of interest to report.

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